

IMAGING PROTOCOL

for patient-specific surgical guides
CT / CBCT of the seating surface · dental scan if tooth-borne

FIT · STABILITY · TRANSFER

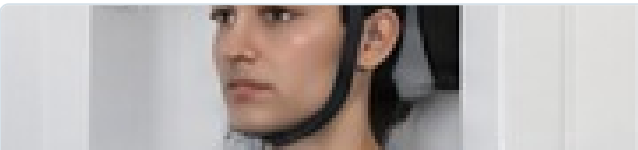


A guide transfers the plan to surgery by seating in one position on bone or teeth. It is only as accurate as the surface it seats on.

1 CT / CBCT ACQUISITION

GENERAL PRINCIPLES

- Capture the seating surface at full resolution
- Include stable bone around the guide footprint
- Natural Head Position — stable and reproducible
- Patient still — motion blurs the seating surface
- Metal-artefact-reduction enabled



Stable position — guide footprint in the field of view

RECOMMENDED

Image the exact bone (or teeth) the guide will rest on at full resolution — that surface is what gives the guide one unique, stable seat.

IMPORTANT — METAL ARTEFACT REDUCTION

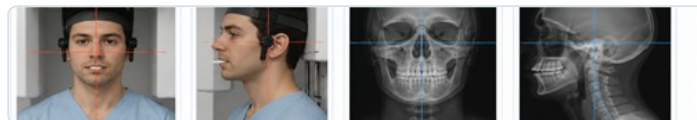
Enable the metal-artefact-reduction protocol — streaks over the seating surface lead to a guide that rocks or sits in the wrong position.



2 RECOMMENDED CT / CBCT PARAMETERS

PARAMETER	CT (SPIRAL)	CBCT (CONE-BEAM)
FOV (field of view)	Seating surface + stable bone	Seating surface + stable bone
Matrix	≥ 512 × 512	≥ 512 × 512
Slice thickness (Z)	0.5–1.0 mm (reconstruction)	0.3–0.6 mm
In-plane reconstruction (X,Y)	0.5–0.7 mm	0.3–0.4 mm
Orientation	Axial, preferably	Axial, preferably
Contrast agent	NO	NO
Scan time	Per device protocol	20–40 sec
Metal-artefact-reduction protocol	ENABLED	ENABLED

2.1 — SCAN VERIFICATION (SCOUT)



Seat surface covered Stable bone around No motion Full resolution

The guide seats where you operate — that bone (or teeth) surface must be captured at full resolution, free of motion and metal artefact.

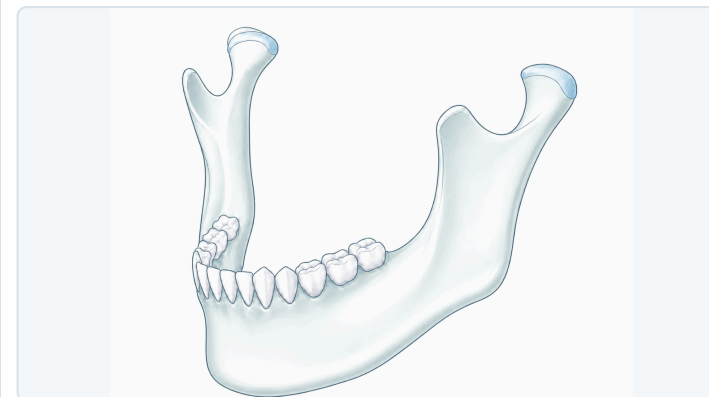
3 TOOTH-BORNE GUIDES: DENTAL SCAN

BONE-BORNE GUIDES

Guides that seat on bone need only the CT / CBCT above — **no dental data required.**

IF THE GUIDE SEATS ON TEETH

Provide an intraoral scan (STL) of the arch the guide rests on — the dentition is the reference surface, and the CBCT alone does not capture it precisely.



The guide is designed to seat on the imaged surface in one position

WHAT TO PROVIDE

- A full-resolution CT / CBCT of the seating surface
- An intraoral scan (STL) for tooth-borne guides
- Where the guide should seat and the planned action

3.1 — FILE FORMATS

CT / CBCT (seating bone)	.dcm · .DICOM (uncompressed)
Intraoral scan (if tooth-borne)	.STL · .PLY · .OBJ

GENERAL RECOMMENDATIONS

- Provide the complete, uncompressed data set
- Tell us where the guide should seat (bone or teeth)
- Keep the seating surface free of motion and artefact

FOR OPTIMAL RESULTS

- Image the seating surface at full resolution
- Minimise motion and metal artefact
- Add an intraoral scan for tooth-borne guides

SIMPLIFIED WORKFLOW



KEY MESSAGE

A guide is only as accurate as its seat:
1. Full-resolution CT of the seating surface
2. An intraoral scan when it rests on teeth